RESPONSE

Claims 1-5, 21-22, and 30-140 are pending. Claims 1, 3, 21, 22, 30-33, 38-41, 63-66, 70-74, 81-84, 87, 88, 90, 94, 96-99, 104-108, 129, 131, 135, and 137 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333). Claims 2, 34, 35, 43, 44, 46, 67, 68, 76, 77, 79, 85, 86, 91, 92, 100, 101, 109, 110, 112, 130, and 136 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) as applied to claims 1, 30, 63, 81, 96 above, and in further view of Mills (USPN 5,991,303). Claims 4 and 5 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) as applied to claim 1 above and in further view of Wakeley et al (USPN 6,198,727). Claims 36, 37, 69, 102, and 103 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) as applied to claims 30, 63, 96 above, and further in view of IEEE 802.3u-1995. Claims 42, 75, 89, and 95 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) as applied to claims 30, 63, and 81 above, and further in view of Crayford (USPN 5,432,775). Claims 45, 47, 78, 80, 93, 111, and 113 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) and in further view of Mills (USPN 5,991,303) as applied to claims 43, 76, 91, 109 above, and further in view of Crayford (USPN 5,432,775). Claims 48-51, 54, 55, 57, 61, 114-117, 120, 121, 123, 127, 132, 134, 138, and 140 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et

al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) in further in view of IEEE 802.3u-1995. Claims 52, 53, 58, 59, 118, 119, 124, 125, 133, and 139 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) in further in view of IEEE 802.3u-1995 as applied to claims 48 and 114 and further in view of Mills (USPN 5,991,303). Claims 56, 62, 122, and 128 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) in further in view of IEEE 802.3u-1995 as applied to claims 48 and 114 and further in view of Crayford (USPN 5,432,775). Claims 60 and 126 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) in further in view of IEEE 802.3u-1995 as applied to claims 58 and 124 and further in view of Crayford (USPN 5,432,775).

The prior art rejections are respectfully traversed. Independent claims 1, 21, 22, 30, 48, 63, 81, 96, 114, 129, 132, 135, and 138 have been amended to more particularly claim the patentable subject matter of the present invention.

1. Claims 1, 3, 21, 22, 30-33, 38-41, 63-66, 70-74, 81-84, 87, 88, 90, 94, 96-99, 104-108, 129, 131, 135, and 137 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333). Claim 1 requires: (a) a first network device transmitting a first message advertising a first set of capabilities to a second network device, (b) the first network device negotiating with the second network device to determine a first link speed based upon the first set of capabilities, (c) the first network device *attempting to establish a link at the first link*

speed with the second network device, (d) the first network device *failing to establish a link that can support data communications* at the first link speed with the second network device, (e) the first network device *negotiating with the second network device to determine a second link speed that is less than the first link speed*, and (f) the first network device and the second network device *establishing a link to support the data communications at the second link speed.*

Applicants assert that, at least, the operations required by elements (c), (d), (e), and/or (f) of claim 1 (as referenced above) are neither disclosed nor suggested by the prior art of record. In rejecting claim 1, the Examiner asserts that ***establishing*** a communication link at a first link speed ***that may or may not introduce errors*** into a ***serviced data communication*** as taught by Feuerstraeter is equivalent to (and discloses) being *UNABLE TO ESTABLISH* a communication link at the first link speed. This assertion is simply incorrect and the Examiner's rejection is unsustainable.

The Examiner asserts that Feuerstraeter discloses attempting and failing to establish a link that can support data communications at the first link speed. At col. 6, lines 56 - col. 7, line 2, Feuerstraeter discloses **transmitting data** between a repeater hub 40 and computer 28 using 100Base communication protocol, the **data becoming corrupted** by the type 3 cable link 38. The devices **detect the errors from the computed data**, automatically disconnect the link to renegotiate a lower rate communication protocol, and operate accordingly. At col. 8, lines 24-55, Feuerstraeter discloses **monitoring transmitted and received data** for errors. Error detection logic determines when the number of errors received or transmitted exceeds a threshold, which indicates that the communication link is probably the cause of the errors. At col. 9, lines

13-39, Feuerstraeter discloses negotiating a highest rate, establishing a link at the highest rate, and performing **error detection** as described above (within Feuerstraeter).

As these citations demonstrate, Feuerstraeter discloses ***establishing*** a communication link at a first link speed ***that may or may not introduce errors*** into a ***serviced data communication***. Feuerstraeter further teaches that data being transmitted and received over the communication link operating at the first link speed is monitored to detect errors in the data. If the number of data errors (or data error rate) is too great, the devices automatically disconnect the link, renegotiate a lower link speed, and establish a new link at the lower link speed. In contrast, the method of claim 1 includes, in part, attempting to establish a link at the first link speed and, if the link cannot be established to support data communications at the first link speed, the devices renegotiate a slower link speed. As such, if a link establishment failure occurs, data is never transmitted at the first link speed and the devices negotiate a slower link speed. Thus, the teachings of Feuerstraeter, which teach that a link be established to support data communications at a first link speed, monitoring the data communications for errors, and if the errors exceeds a threshold, terminate the link and establish another link at a slower link speed does not anticipate, or suggest, that if a link establishment failure occurs, data is never transmitted at the first link speed and the devices negotiate a slower link speed as is claimed in claim 1.

Further, At page 3, lines 7-10 of the Action, the Examiner seems to concede the shortcomings of Feuerstraeter when he states that, "Feuerstraeter possibly does not expressly state that the failure to establish a link capable of supporting communications constitutes a failure to establish a link at the first link speed."

Having identified the shortcomings of Feuerstraeter, the Examiner cites Cochennec at col. 5, lines 18-22 which states, "[t]he transmitter-receiver apparatus 33i has conventional circuits capable of detecting a failure in the high bit rate link HBRLi, this failure may be the absence of the clock, an excessive error rate, a loss of locking, etc." The Examiner then states "[i]t is obvious that Cochennec makes this distinction because a link that has a large number of errors cannot communicate information properly and so is useless to the communication system. It would have been obvious to one of ordinary skill in the art of communication systems to consider failing to establish a link on which communication can occur as failing to establish a link because a communication link is useless and so should be considered a failure, unless it can communicate information properly."

The Applicant respectfully disagrees. Cochennec at col. 5, lines 18-22 describes how a failure of a high bit rate link may be detected but DOES NOT disclose that failing to establish a link is the same as establishing a link that may or may not introduce errors into a serviced data communication. Further, the applicant disagrees with the Examiner's argument that establishing a link that introduces errors into a serviced data communication (coined "a useless link" by the Examiner) is the same thing as being unable to establish a link. If a link is established it services a data communication. Moreover, a link that is established at a first link speed but that introduces errors into a serviced data communication may have a greater effective throughput than a link that is established at a second link speed, e.g., one-tenth the first link speed, and that introduces fewer errors/no errors into the serviced data communication. Such is the case because automatic retransmission operations and/or more robust data encoding will overcome the

introduced errors. Thus, the link operating at the first link speed that introduces errors into a serviced data communication will oftentimes have a significantly greater data throughput rate than a loss-free link at a second link speed that is a fraction of the first link speed.

The Examiner asserts that "Feuerstraeter, as broadly interpreted, is attempting to establish a link at the first link speed; failing to establish a link at the first link speed; and negotiating to determine a second link speed that is less than the first link speed." (Action at page 3, lines 19-22) Applicant asserts that it is clear that establishing a link and later dropping the link is clearly **not** the same thing as never establishing a link. Feuerstraeter's "attempting" to establish a link, as the Examiner has referenced, includes *establishing the link* at a higher link speed, testing it for errors (i.e., transmitting/receiving data and monitoring the error rate in the data), and if too many errors exist, terminating it and negotiating a new link at a lower link speed. In contrast, the present invention as claimed in claim 1 *does not establish a link* at the first link speed if it cannot support data communications at the first link speed, thus, data is never transmitted at the first link speed unless a link that can support data communications at the first link speed is established. As such, claim 1 is not obvious in view of the prior art cited.

The Examiner's rejection of claim 1 is incorrect and unsustainable because the Examiner has failed to cite any reference that discloses the elements of claim 1 (as amended). Thus, claim 1 is allowable over the cited prior art. Independent claims 21, 22, 30, 48, 63, 81, 96, 114, 129, 132, 135, and 138 are allowable for at least these same/similar reasons. For the same or similar reasons, dependent claims 3, 31-33, 38-41, 64-66, 70-74, 82-84, 87, 88, 90, 94, 97-99, 104-108, 131, and 137 are also allowable.

Claim 135 (and claim 137 that depends from claim 135) includes additional limitations that are neither disclosed nor suggested by the cited prior art. In particular, claim 135 includes the additional limitations of: in response to a failure of the link at the second supported link speed: (a) a first wired Ethernet device negotiating with a second wired Ethernet device to determine that link establishment will be attempted at the first supported link speed; and (b) the first wired Ethernet device and the second wired Ethernet device attempting to establish a link at the first supported link speed. Thus, after failure of link at the second link speed, the devices reattempt to establish a link at the first link speed even though the first attempt to establish a link at the first link speed was unsuccessful. These limitations, in addition to the limitations described above with reference to claim 1 are neither disclosed nor suggested by the cited prior art. Thus, claims 135 and 137 are allowable for these reasons as well.

2. Claims 2, 34, 35, 43, 44, 46, 67, 68, 76, 77, 79, 85, 86, 91, 92, 100, 101, 109, 110, 112, 130, and 136 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) as applied to claims 1, 30, 63, 81, 96 above, and in further view of Mills (USPN 5,991,303). For the reasons set forth above for claims 1, 30, 63, 81, 96, claims 2, 34, 35, 43, 44, 46, 67, 68, 76, 77, 79, 85, 86, 91, 92, 100, 101, 109, 110, 112, 130, and 136 are allowable over the cited references. Claim 136 is also allowable for the reasons provided above with reference to claim 135.

3. Claims 4 and 5 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) as applied to claim 1 above and in further view of Wakeley et al (USPN 6,198,727). For the reasons set forth above for claim 1, claims 4 and 5 are allowable over the cited references.

4. Claims 36, 37, 69, 102, and 103 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) as applied to claims 30, 63, and 96 above, and further in view of IEEE 802.3u-1995. For the reasons set forth above for claims 30, 63, and 96, claims 36, 37, 69, 102, and 103 are allowable over the cited references.

5. Claims 42, 75, 89, and 95 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) as applied to claims 30, 63, and 81 above, and further in view of Crayford (USPN 5,432,775). For the reasons set forth above for claims 30, 63, and 81, claims 42, 75, 89, and 95 are allowable over the cited references.

6. Claims 45, 47, 78, 80, 93, 111, and 113 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) and in further view of Mills (USPN 5,991,303) as applied to claims 43, 76, 91, and 109 above, and further in view of Crayford (USPN 5,432,775). For the reasons set forth above for claims 43, 76, 91, and 109, claims 45, 47, 78, 80, 93, 111, and 113 are allowable over the cited references.

7. Claims 48-51, 54, 55, 57, 61, 114-117, 120, 121, 123, 127, 132, 134, 138, and 140 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) in further in view of IEEE 802.3u-1995. For the reasons set forth above for claims 48, 114, 129, 135, and 138, claims 48-51, 54, 55, 57, 61, 114-117, 120, 121, 123, 127, 132, 134, 138, and 140 are allowable over the cited references. Claims 138 and 140 are further allowable for the reasons described above with reference to claims 135 and 137.

8. Claims 52, 53, 58, 59, 118, 119, 124, 125, 133, and 139 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) in further in view of IEEE 802.3u-1995 as applied to claims 48 and 114 and further in view of Mills (USPN 5,991,303). For the reasons set forth above for claims 48, 114, 129, and 135, claims 52, 53, 58, 59, 118, 119, 124, 125, 133, and 139 are allowable over the cited references. Claim 139 is also allowable for the reasons described above with reference to claim 138.

9. Claims 56, 62, 122, and 128 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) in further in view of IEEE 802.3u-1995 as applied to claims 48 and 114 and further in view of Crayford (USPN 5,432,775). For the reasons set forth above for claims 48 and 114, claims 56, 62, 122, and 128 are allowable over the cited references.

10. Claims 60 and 126 were rejected under 35 U.S.C. 103(a) as being unpatentable over Feuerstraeter et al. (USPN 6,285,659) in view of Cochennec (USPN 4,417,333) in further in view of IEEE 802.3u-1995 as applied to claims 58 and 124 and further in view of Crayford (USPN 5,432,775). For the reasons set forth above for claims 48 and 114, claims 60 and 126 are allowable over the cited references.

CONCLUSIONS

For the above-provided reasons, all claims are now allowable and a notice of allowance is courteously solicited.

Respectfully submitted,

Date: April 22, 2003

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